APPENDIX A: STRATEGIC PLAN PARTICIPANTS

APPENDIX A: STRATEGIC PLAN PARTICIPANTS

Members of the Diabetes Mellitus Interagency Coordinating Committee (DMICC) During Development of the Strategic Plan

Chairman:

Allen Spiegel, MD*

National Institute of Diabetes and Digestive and Kidney Diseases

(*Note: Allen Spiegel, MD, chaired the DMICC from the inception of this strategic planning effort until March 2006, when he left the NIDDK Directorship to assume a position in academia. Griffin Rodgers, MD, MACP, Acting Director, NIDDK, and Judith Fradkin, MD, Director, Division of Diabetes, Endocrinology, and Metabolic Diseases, NIDDK, led the planning process to its completion.)

Executive Secretary: Sanford Garfield, PhD

National Institute of Diabetes and Digestive and Kidney Diseases

Kelly Acton, MD, MPH, FACP

Indian Health Service

Richard Anderson, MD, PhD

National Institute of General Medical Sciences

Perry Blackshear, MD, DPhil

National Institute of Environmental Health Sciences

Ricardo Brown, PhD

National Institute on Alcohol Abuse and Alcoholism

Patricia Bryant, PhD

National Institute of Dental and Craniofacial Research

Rosaly Correa-de-Araujo, MD, MSc, PhD

Agency for Healthcare Research and Quality

Peter Dudley, PhD

National Eye Institute

Chhanda Dutta, PhD

National Institute on Aging

Mark Eberhardt, PhD

Centers for Disease Control and Prevention

Michael Engelgau, MD

Centers for Disease Control and Prevention

Suzanne Feetham, PhD, RN, FAAN

Health Resources and Services Administration

Judith Fradkin, MD

National Institute of Diabetes and Digestive and Kidney Diseases

Phyllis Frosst, PhD

National Human Genome Research Institute

Garth Graham, MD, MPH

DHHS Office of Minority Health

Gilman Grave, MD

National Institute of Child Health and Human Development

Martha L. Hare, PhD, RN

National Institute of Nursing Research

Anthony R. Hayward, MD, PhD

National Center for Research Resources

Ann Jerkins, PhD

Center for Scientific Review

Jag Khalsa, PhD

National Institute on Drug Abuse

Marguerite Klein

National Center for Complementary and Alternative Medicine

Alan McLaughlin, PhD

National Institute of Biomedical Imaging and Bioengineering

Peter Muehrer, PhD

National Institute of Mental Health

David Orloff, MD

Food and Drug Administration

Mary Parks, MD

Food and Drug Administration

Katherine Palatianos, MD, MPH

Health Resources and Services Administration

Audrey Penn, MD

National Institute of Neurological Disorders and Stroke

Leonard Pogach, MD, MBA

Veterans Health Administration

John Ridge, PhD

National Institute of Allergy and Infectious Diseases

Sheila H. Roman, MD, MPH

Centers for Medicare & Medicaid Services

Daniel Rosenblum, MD

National Center for Research Resources

Peter Savage, MD

National Heart, Lung, and Blood Institute

Elliot Siegel, PhD

National Library of Medicine

Francisco S. Sy, MD, DrPH

National Center on Minority Health and Health Disparities

Frank Vinicor, MD, MPH

Centers for Disease Control and Prevention

Baldwin Wong

National Institute on Deafness and Other Communication Disorders

Members of the Strategic Plan Executive Committee³

Beena Akolkar, PhD

National Institute of Diabetes and Digestive and Kidney Diseases

Richard Anderson, MD, PhD

National Institute of General Medical Sciences

Michael Appel, PhD

National Institute of Diabetes and Digestive and Kidney Diseases

Mark Atkinson, PhD

University of Florida

Nancy Bridges, MD

National Institute of Allergy and Infectious Diseases

Josephine Briggs, MD

National Institute of Diabetes and Digestive

and Kidney Diseases

Ricardo Brown, PhD

National Institute on Alcohol Abuse and Alcoholism

Michael Brownlee, MD

Albert Einstein College of Medicine

Scott Campbell, PhD

American Diabetes Association

Maria Canto, DDS, MPH

National Institute of Dental and Craniofacial Research

Michelle Cissell, PhD

Juvenile Diabetes Research Foundation International

Peter Dudley, PhD

National Eye Institute

Chhanda Dutta, PhD

National Institute on Aging

Richard Farishian, PhD

National Institute of Diabetes and Digestive

and Kidney Diseases

Carol Feld, MA

National Institute of Diabetes and Digestive and Kidney Diseases

Judith Fradkin, MD

National Institute of Diabetes and Digestive and Kidney Diseases

Robert Goldstein, MD, PhD

Juvenile Diabetes Research Foundation International

 $^{^3}$ Note: This listing provides the institutional affiliations of contributors during the development of the Strategic Plan.

Shefa Gordon, PhD

National Institute of Diabetes and Digestive and Kidney Diseases

Gilman Grave, MD

National Institute of Child Health and Human Development

Mary Hanlon, PhD

National Institute of Diabetes and Digestive and Kidney Diseases

James Hyde, PhD

National Institute of Diabetes and Digestive and Kidney Diseases

Giuseppina Imperatore, MD, PhD

Centers for Disease Control and Prevention

Richard Insel, MD

Juvenile Diabetes Research Foundation International

Ann Jerkins, PhD

Center for Scientific Review

Teresa Jones, MD

National Institute of Diabetes and Digestive and Kidney Diseases

Christine Kelley, PhD

National Institute of Biomedical Imaging and Bioengineering

Jag Khalsa, PhD

National Institute on Drug Abuse

Kristy Kraemer, PhD

National Institute of Allergy and Infectious Diseases

Maren Laughlin, PhD

National Institute of Diabetes and Digestive and Kidney Diseases

Mark Magnuson, MD

Vanderbilt University

Jørn Nerup, MD, DMSc, ERCP, EDIN

Steno Diabetes Center

Audrey Penn, MD

National Institute of Neurological Disorders and Stroke

John Porter, PhD

National Institute of Neurological Disorders and Stroke

Cristina Rabadan-Diehl, PhD

National Heart, Lung, and Blood Institute

Elizabeth Read, MD

NIH Clinical Center

Camillo Ricordi, MD

University of Miami

John Ridge, PhD

National Institute of Allergy and Infectious Diseases

B. Tibor Roberts, PhD

National Institute of Diabetes and Digestive and Kidney Diseases

Griffin Rodgers, MD, MACP

National Institute of Diabetes and Digestive and Kidney Diseases

Sharon Ross, PhD

National Cancer Institute

Sheryl Sato, PhD

National Institute of Diabetes and Digestive and Kidney Diseases

Peter Savage, MD

National Heart, Lung, and Blood Institute

Susana Serrate-Sztein, MD

National Institute of Arthritis and Musculoskeletal and Skin Diseases

Robert Sherwin, MD

Yale University

Elliot Siegel, PhD

National Library of Medicine

Philip Smith, PhD

National Institute of Diabetes and Digestive and Kidney Diseases

Lisa Spain, PhD

National Institute of Diabetes and Digestive and Kidney Diseases

Allen Spiegel, MD

National Institute of Diabetes and Digestive and Kidney Diseases

Karen Teff, PhD

National Institute of Diabetes and Digestive and Kidney Diseases

Frank Vinicor, MD, MPH

Centers for Disease Control and Prevention

David Wilde, MD, PhD

National Center for Research Resources

Karen Winer, MD

National Institute of Child Health and Human Development

Working Group Members

Working Group I: Identify the Genetic and Environmental Causes of Type 1 Diabetes

Chairperson:

Jørn Nerup, MD, DMSc, ERCP, EDIN

Steno Diabetes Center

Beena Akolkar, PhD

National Institute of Diabetes and Digestive and Kidney Diseases

Phyllis Frosst, PhD

National Human Genome Research Institute

Åke Lernmark, MD

University of Washington

Concepcion R. Nierras, PhD

Juvenile Diabetes Research Foundation International

Sandra Puczynski, PhD

Medical University of Ohio

Marian Rewers, MD, PhD, MPH

University of Colorado Health Sciences Center

John Ridge, PhD

National Institute of Allergy and Infectious Diseases

Stephen Rich, PhD

Wake Forest University School of Medicine

Linda Wicker, PhD

University of Cambridge

Working Group II: Prevent or Reverse Type 1 Diabetes

Chairperson:

Mark Atkinson, PhD

University of Florida

Jeffrey Bluestone, PhD

University of California San Francisco

George Eisenbarth, MD, PhD

University of Colorado Health Sciences Center

Carla Greenbaum, MD

Benaroya Research Institute

Dale Greiner, PhD

University of Massachusetts Medical School

Norma Kenyon, PhD

University of Miami

Diane Mathis, PhD

Harvard Medical School

Margery Perry

Aspen, Colorado

John Ridge, PhD

National Institute of Allergy and Infectious Diseases

Sharon Ross, PhD

National Cancer Institute

Lisa Spain, PhD

National Institute of Diabetes and Digestive and Kidney Diseases

Teodora Staeva-Vieira, PhD

Juvenile Diabetes Research Foundation International

Matthias von Herrath, MD

La Jolla Institute for Allergy and Immunology

Working Group III: Develop Cell Replacement Therapy

Chairpersons:

Mark Magnuson, MD

Camillo Ricordi, MD

Vanderbilt University

University of Miami

Domenico Accili, MD

Columbia University

Michael Appel, PhD

National Institute of Diabetes and Digestive

and Kidney Diseases

Nancy Bridges, MD

National Institute of Allergy and Infectious Diseases

E. Brian Flanagan, PhD

Juvenile Diabetes Research Foundation International

Ronald G. Gill, PhD

University of Colorado Health Sciences Center

Ann Jerkins, PhD

Center for Scientific Review

Christine Kelley, PhD

National Institute of Biomedical Imaging and Bioengineering

Kristy Kraemer, PhD

National Institute of Allergy and Infectious Diseases

Christian Larsen, MD, PhD

Emory University

Maren Laughlin, PhD

National Institute of Diabetes and Digestive

and Kidney Diseases

Douglas Melton, PhD

Harvard University

Ali Naji, MD, PhD

University of Pennsylvania

David Piston, PhD

Vanderbilt University School of Medicine

Kenneth Polonsky, MD

Washington University in St. Louis

Elizabeth Read, MD

NIH Clinical Center

Aldo Rossini, MD

University of Massachusetts Medical School

Sheryl Sato, PhD

National Institute of Diabetes and Digestive

and Kidney Diseases

Anne Seidel

San Francisco, California

Judith Thomas, PhD

University of Alabama

Working Group IV: Prevent or Reduce Hypoglycemia

Chairperson:

Robert Sherwin, MD

Yale University

Guillermo Arreaza-Rubin, MD

National Institute of Diabetes and Digestive

and Kidney Diseases

Dorothy Becker, MD

Children's Hospital of Pittsburgh

Alan Cherrington, PhD

Vanderbilt University

Philip Cryer, MD

Washington University in St. Louis

Aaron Kowalski, PhD

Juvenile Diabetes Research Foundation International

Barry Levin, MD

Veterans Affairs Medical Center and the New Jersey

Medical School

Murray Loew, PhD

George Washington University

Audrey Penn, MD

National Institute of Neurological Disorders and Stroke

Elizabeth Seaguist, MD

University of Minnesota

William Tamborlane, MD, FAAP, FACE

Yale University School of Medicine

Karen Teff, PhD

National Institute of Diabetes and Digestive and Kidney Diseases

Karen Winer, MD

National Institute of Child Health and Human Development

Working Group V: Prevent or Reduce the Complications of Type 1 Diabetes

Chairperson:

Michael Brownlee, MD

Albert Einstein College of Medicine

Lloyd Paul Aiello, MD, PhD

Joslin Diabetes Center

Ricardo Brown, PhD

National Institute on Alcohol Abuse and Alcoholism

Peter Dudley, PhD

National Eye Institute

Eva Feldman, MD, PhD

University of Michigan

Geoffrey Gurtner, MD

New York University Medical Center

Antony Horton, PhD

Juvenile Diabetes Research Foundation International

Teresa Jones, MD

National Institute of Diabetes and Digestive and Kidney Diseases

Daniel P. Kelly, MD

Washington University School of Medicine

Christian Ketchum, PhD

National Institute of Diabetes and Digestive and Kidney Diseases

Peter Libby, MD

Harvard Medical School

Timothy Mever. MD

Stanford University

Joseph Nadeau, PhD

Case Western Reserve University

Trina Overlock

Greenwich, Connecticut

John Porter, PhD

National Institute of Neurological Disorders and Stroke

Cristina Rabadan-Diehl, PhD

National Heart, Lung, and Blood Institute

Ann Marie Schmidt, MD

Columbia University

Behavioral Research Contributors

In response to input submitted during the public comment period from the behavioral research community, the following experts in behavioral research, health service research, or diabetes education provided written comments or participated in a conference call addressing these areas as they relate to type 1 diabetes research.

Barbara Anderson, PhD

Baylor College of Medicine

Aaron Carroll, MD

Indiana University School of Medicine

Daniel Cox, PhD, ABPP

University of Virginia Health System

Catherine L. Davis, PhD

Medical College of Georgia

Alan Delamater, PhD

University of Miami

Lawrence Fisher, PhD

University of California, San Francisco

Russell Glasgow, PhD

Kaiser Permanente Colorado

Margaret Grey, DrPH, RN, FAAN

Yale School of Nursing

Korey Hood, PhD

Joslin Diabetes Center

Ron lannotti, PhD

National Institute of Child Health and Human Development

Suzanne Johnson, PhD

Florida State University College of Medicine

Karmeen Kulkarni, MS, RD, BC-ADM, CDE

American Diabetes Association

Lori Laffel, MD, MPH

Joslin Diabetes Center

Patrick Lustman, PhD

Washington University School of Medicine

John Piette, PhD

Veterans Affairs Ann Arbor Healthcare System

Richard Rubin, PhD, CDE

Johns Hopkins University School of Medicine

Randi Streisand, PhD

Children's National Medical Center

Michael Weiss, JD

American Diabetes Association

Jill Weissberg-Benchell, PhD

Children's Memorial Hospital

Timothy Wysocki, PhD, ABPP

Nemours Children's Clinic—Jacksonville

Deborah Young-Hyman, PhD

Medical College of Georgia

APPENDIX B: ACRONYMS AND ABBREVIATIONS

APPENDIX B: ACRONYMS AND ABBREVIATIONS

Organizational Components

ADA	American Diabetes Association	FIND	Family Investigation of Nephropathy		
CDC	Centers for Disease Control and Prevention		and Diabetes		
CMS	Centers for Medicare & Medicaid Services	GoKinD	Genetics of Kidneys in Diabetes Study		
HHS	Department of Health and Human Services	ICRs	Islet Cell Resource Centers		
DMICC	Diabetes Mellitus Interagency Coordinating	ITN	Immune Tolerance Network		
	Committee	MMPC	Mouse Metabolic Phenotyping Centers		
FDA	Food and Drug Administration	NHPCSG	Non-Human Primate Transplantation		
JDRF	Juvenile Diabetes Research Foundation		Tolerance Cooperative Study Group		
	International	SEARCH	Search for Diabetes in Youth Study		
NCRR	National Center for Research Resources	T1DGC	Type 1 Diabetes Genetics Consortium		
NEI	National Eye Institute	T1D-RAID	Type 1 Diabetes-Rapid Access to Intervention		
NHGRI	National Human Genome Research Institute		Development		
NHLBI	National Heart, Lung, and Blood Institute	TEDDY	The Environmental Determinants of		
NIAID	National Institute of Allergy and Infectious		Diabetes in the Young		
	Diseases	TrialNet	Type 1 Diabetes TrialNet		
NIBIB	National Institute of Biomedical Imaging	TRIGR	Trial To Reduce IDDM in the Genetically		
	and Bioengineering		at Risk		
NICHD	National Institute of Child Health				
	and Human Development	Other Acror	nyms and Abbreviations		
NIDA	National Institute on Drug Abuse				
NIDCR	National Institute of Dental and	ARB	angiotensin receptor blocker		
	Craniofacial Research	ACE	angiotensin converting enzyme		
NIDDK	National Institute of Diabetes and Digestive	AGE	advanced glycation endproducts		
	and Kidney Diseases	ARE	antioxidant response element		
NIEHS	National Institute of Environmental	AMP	adenosine monophosphate		
	Health Sciences	ATP	adenosine triphosphate		
NIH	National Institutes of Health	BB	biobreeding		
NINDS	National Institute of Neurological Disorders	BGAT	blood glucose awareness training		
	and Stroke	BMI	body mass index		
NINR	National Institute of Nursing Research	BOLD-fMRI	blood oxygen level-dependent functional		
NLM	National Library of Medicine	DOED IIII	magnetic resonance imaging		
	·	CGMs	continuous glucose monitors		
Research P	rograms	ChIP	chromatin immunoprecipitation		
		DMK	dystrophia myotonica kinase		
AMDCC	Animal Models of Diabetic Complications	ES cell	embryonic stem cell		
ANADOO	Consortium	ESRD	end-stage renal disease		
BCBC	Beta Cell Biology Consortium	FACS	fluorescence activated cell sorting		
CIT	Clinical Islet Transplantation Consortium	fMRI	functional magnetic resonance imaging		
CITR	Collaborative Islet Transplant Registry	GAD	glutamic acid decarboxylase		
DCCT	Diabetes Control and Complications Trial	HAAF	hypoglycemia-associated autonomic failure		
DirecNet	Diabetes Research in Children Network	HbA1c	hemoglobin A1c		
DPT-1	Diabetes Prevention Trial-Type 1	HLA	human leukocyte antigen		
DRCR.net	Diabetic Retinopathy Clinical Research	HMGB1			
DICKIE	Network	HTS	high mobility group box 1 high-throughput screening		
EDIC					
EDIC	Epidemiology of Diabetes Interventions	IA-2	anti-tyrosine phosphatase		
	and Complications	ICA	islet cell autoantibodies		

IDDM	insulin-dependent diabetes mellitus	NKT	natural killer T cells
IGRP	islet-specific glucose-6-phosphatase catalytic	NOD	non-obese diabetic
	subunit related protein	PET	positron emission tomography
INS	insulin gene	PPAR-alpha	peroxisome proliferator-activated
LDL	low-density lipoprotein		receptor-alpha
Mbp	mega base pairs	PTPN22	protein tyrosine phosphatase N22 gene
MHC	major histocompatibility complex	RAGE	receptor for advanced gylcation endproducts
mRNA	messenger RNA	RNAi	RNA interference
miRNA	micro RNA	ROS	reactive oxygen species
MLI	NIH Roadmap Molecular Libraries Initiative	SACO	serial analysis of chromatin occupancy
MODY	Maturity Onset Diabetes of the Young	siRNA	small interfering RNA
MRI	magnetic resonance imaging	SNP	single nucleotide polymorphism
MRS	magnetic resonance spectroscopy	TNF	tumor necrosis factor
ngn 3	neurogenin 3	VEGF	vascular endothelial growth factor
NIP	Nutritional Intervention to Prevent	VNTR	variable number of tandem repeats
	Type 1 Diabetes		

ACKNOWLEDGEMENTS

ACKNOWLEDGEMENTS

Scientific Expertise and Leadership: Division of Diabetes, Endocrinology, and Metabolic Diseases, NIDDK

Judith Fradkin, MD

Director

Beena Akolkar, PhD

Immunopathogenesis and Genetics of Type 1 Diabetes Program Director

Michael Appel, PhD

Director, Islet Biology and Transplantation Research Program

Guillermo Arreaza-Rubin, MD

Director, Clinical Immunology, Type 1 Diabetes Program

James Hyde, PhD

Senior Advisor for Research Training and Career Development

Teresa Jones, MD

Diabetes Complications Program Director

Maren Laughlin, PhD

Metabolism and Structural Biology Program Director

Sheryl Sato, PhD

Director, Neurobiology of Obesity and Developmental Biology

Philip Smith, PhD

Deputy Director; Co-Director, Office of Obesity Research

Lisa Spain, PhD

Director, Immunobiology of Type 1 Diabetes Program and Autoimmune Endocrine Diseases Program Production Management and Integration: Office of Scientific Program and Policy Analysis, NIDDK

Carol Feld, MA

Director

Shefa Gordon, PhD

Presidential Management Fellow

Mary Hanlon, PhD

Health Science Policy Analyst

B. Tibor Roberts, PhD

Health Science Policy Analyst

Christopher Von Seggern, PhD, MPH

AAAS NIH Science Policy Fellow

Additional Contributions

Richard Farishian, PhD

Deputy Director

Lisa Gansheroff, PhD

Health Science Policy Analyst

Eleanor Hoff, PhD

Health Science Policy Analyst

Megan Miller, PhD

Health Science Policy Analyst

Additional Figure Credit

NIDDK: Jody Evans